FLUKE®

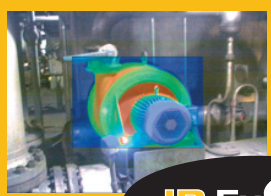
Fluke Ti4xFT and Ti5xFT IR FlexCam® Thermal Imagers

The experts' choice for problem solving and preventive/predictive maintenance

IR-Fusion® Technology—infrared and visual images fused together makes infrared easy to understand

See the smallest details with the extra-large display, high resolution and maximum thermal sensitivity

Models for any application and budget

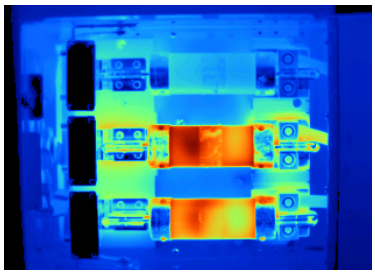


IR-Fusion®

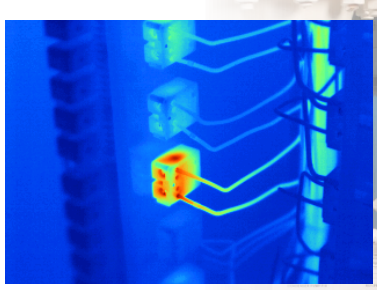
Discover problem areas fast!

Whether you work in an industrial, electrical or commercial facility you can find even small changes in temperature fast and in every detail.

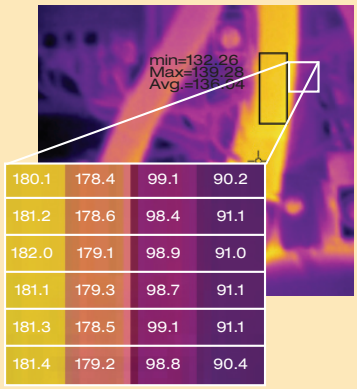
Overheating pole transformer



Three-phase switchgear load imbalance



Overloading lighting control circuit

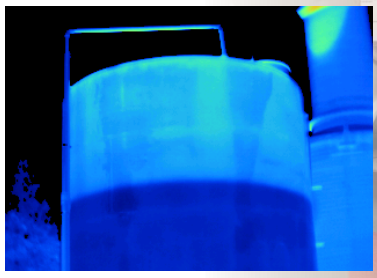


Diagnostic power—the data behind the picture

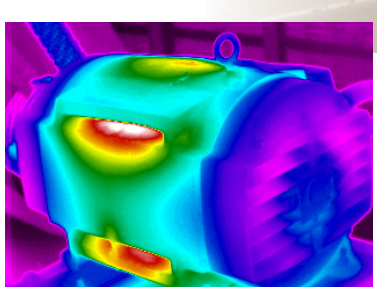
All Fluke thermal imagers are fully radiometric. These units not only graphically display temperature differences, they also measure and store temperatures at every point in the image. All these data points can be recalled and used for detailed analysis of a potential problem or just monitoring trends over time of the same location.

Temperature changes can indicate problems in many areas you see everyday, some include:

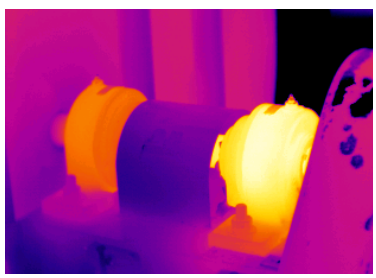
- **Inside electrical distribution and service** (Switch gear, panels, controls, fuses, transformers, receptacles, lighting, conductors, overhead buses, motor control centers)
- **Motors, pumps and mechanical** (Electric motors and generators, pumps, compressors, evaporators, bearings, couplings, gearboxes, gaskets/seals, belts, rollers, disconnects)
- **Process** (Tanks and vessels, pipes, valves and traps, reactors, process insulation)
- **HVAC/R** (air conditioning, heating, air handlers, refrigeration)
- **Outside electrical distribution–utilities** (Transformers, bushings, insulators, transmission lines, other exterior conductors, service connections, disconnects, capacitor banks)
- **Electronic design** (circuit board analysis, electronic cooling design)
- **Research and development** (product design, machine design, metals casting, plastic molding, heat transfer and thermodynamics)



Tank level too low



Abnormal/uneven heating on motor



Overheating bearing cap

IR-Fusion®

IR-Fusion® Technology*

See things both ways—Infrared and visual (visible light) images fused together communicating critical information faster and easier—traditional infrared images are no longer enough.

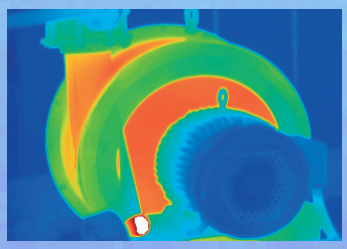
Patent-pending IR-Fusion® Technology simultaneously captures a digital photo in addition to the infrared image and fuses it together taking the mystery out of IR image analysis.

Images enhanced with IR-Fusion help identify and report suspect or faulty components, enabling repairs to be done, and proving that the problem was corrected effectively.

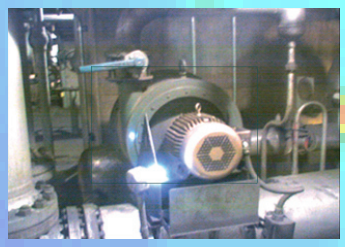
FLUKE®

IR-Fusion—5 viewing modes

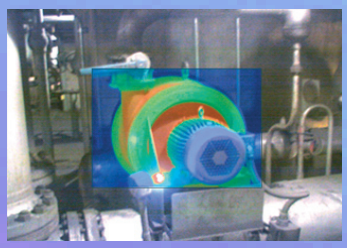
Identify problems quickly with up to five different on-screen modes. All modes are available for viewing and analysis in the included free SmartView™ software, for all models.



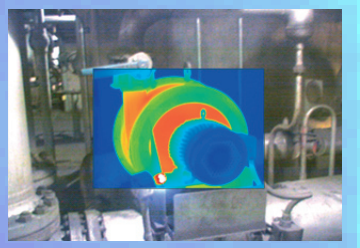
Full (traditional) IR Full screen infrared view for maximum infrared detail.



Full Visual (Visible light) Image A digital photographic image, as you would get from a digital camera.



Alpha Blending A blend of the visual (visible light) and infrared image together to create a single image. The enhanced detail obtained by this mode helps locate problems precisely with a visual frame of reference.



Picture-in-Picture Creates an IR 'window' surrounded by a visual (visible light) frame to easily identify problems, while maintaining a frame of reference with surroundings.

IR/Color Alarm Displays only temperatures falling above, below, or in between a user-selected range in infrared, and anything outside the selected range as a visual (visible light) image.

*Patent-pending IR-Fusion Technology from Fluke links the infrared image to full visual (visible light) image automatically. No need to carry a digital camera or spend additional time and energy managing infrared and visual images.

IR-Fusion links the two images together to make image management effortless.

Fluke IR FlexCam® Thermal Imagers

Your choice for the most demanding thermal imaging applications.

Perfect for troubleshooting, preventative and predictive maintenance . . . for almost any application.

Fluke Ti50FT and Ti55FT IR FlexCam® Thermal Imagers

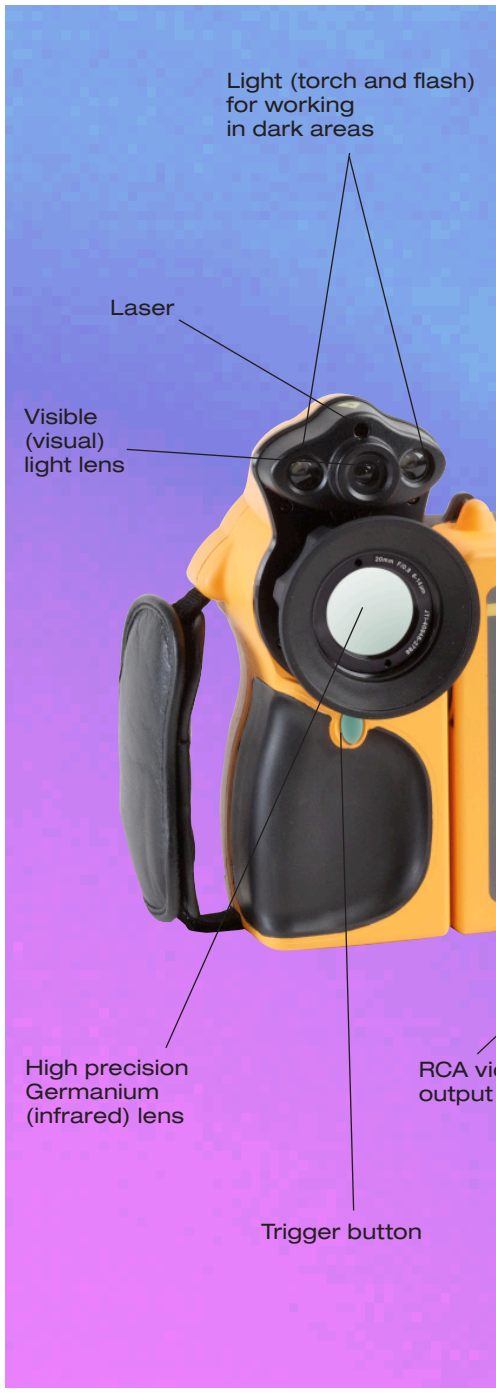
- Obtain the ultimate image quality with a 320 x 240 detector and a refresh rate of 60 Hz
- View the smallest temperature differences with maximum thermal sensitivity (down to 0.05 °C NETD/ 50 mK)

Fluke Ti40FT and Ti45FT IR FlexCam® Thermal Imagers

- Capture high quality images with a 160 x 120 detector and a refresh rate of 30 Hz
- View small temperature differences with high thermal sensitivity (down to 0.08 °C NETD/80 mK)
- Measure up to 1200 °C (2192 °F) with the Ti45FT/HT high temperature model

All FlexCam models also feature:

- Enhanced problem detection and analysis capabilities with IR-Fusion® Technology* (in imager and software)
- Ease-of-use Windows® CE-based menu structure
- Large 12.5 cm (5 in) high-resolution display to see more detail
- High resolution images to identify even the smallest temperature differences and help detect potential problems.
- A choice of three interchangeable lenses to cover every application (optional)
- Storage for over 1000 IR-images plus full radiometric temperature data with included Compact Flash memory card


Light (torch and flash) for working in dark areas
Laser
Visible (visual) light lens
High precision Germanium (infrared) lens
Trigger button

180° articulating lens
FlexCam articulating lens enables you to capture and view images in areas with poor accessibility. The display remains clearly visible while viewing over high objects, under machines or around obstructions. The SmartFocus wheel simplifies getting a stable and sharp image. No need to take your hand off the instrument to turn a focus ring.

Sharp, high-resolution thermal images
The FlexCam Series of thermal imagers is available with different detector sizes, temperature ranges and thermal sensitivities to meet almost every image quality requirement and application. These high-end thermal imagers are easy to use, and allow the user to confidently apply numerous advanced features that make predicting impending problems faster and easier.

Everything you need is included:

- SmartView™ analysis and reporting software (with free upgrades through life of product)
- 512 MB Compact Flash card
- Compact Flash card reader and USB cable
- Battery charger
- Two rechargeable battery packs
- AC adapter (for Ti45FT and Ti55FT only)
- Video cable
- Heavy duty carrying case
- Neck strap
- User manual on CD
- Getting Started Guide

Specifications

	Fluke Ti55FT	Fluke Ti50FT	Fluke Ti45FT	Fluke Ti40FT
Imaging performance				
Field of view (FOV)	23° horizontal x 17° vertical			
Spatial resolution (IFOV)	1.30 mrad	1.30 mrad	2.60 mrad	
Min focus distance	0.15 m (5.9 in)			
Thermal sensitivity (NETD)	≤ 0.05 °C at 30 °C (50 mK)	≤ 0.07 °C at 30 °C (70 mK)	≤ 0.08 °C at 30 °C (80 mK)	≤ 0.09 °C at 30 °C (90 mK)
Detector data acquisition/ image frequency	60 Hz/60 Hz		30 Hz/30 Hz	
Focus	SmartFocus; one finger continuous focus (manual)			
IR digital zoom	2x, 4x, 8x	2x	2x	—
Detector type	320 x 240 Focal Plane Array, Vanadium Oxide (VOx) Uncooled Microbolometer		160 x 120 Focal Plane Array, Vanadium Oxide (VOx) Uncooled Microbolometer	
Spectral band	8 µm to 14 µm			
Digital image enhancement	Automatic full-time enhanced			
On camera IR-Fusion operating modes	Full thermal, full visual light or blended thermal-visual images. Picture-in-Picture.			
Visible light camera	1280 x 1024 pixels, full color			
Visible light digital zoom	2x, 4x	2x	2x	—
Temperature measurement				
Calibrated temperature range	-20 °C to 600 °C (-4 °F to 1112 °F) in three ranges **Range one =** -20 °C to 100 °C (-4 °F to 212 °F) **Range two =** -20 °C to 350 °C (32 °F to 662 °F) **Range three =** 250 °C to 600 °C (482 °F to 1112 °F)	-20 °C to 350 °C (-4 °F to 662 °F) in two ranges **Range one =** -20 °C to 100 °C (-4 °F to 212 °F) **Range two =** -20 °C to 350 °C (32 °F to 662 °F)	-20 °C to 600 °C (-4 °F to 1112 °F) in three ranges **Range one =** -20 °C to 100 °C (-4 °F to 212 °F) **Range two =** -20 °C to 350 °C (32 °F to 662 °F) **Range three =** 250 °C to 600 °C (482 °F to 1112 °F)	-20 °C to 350 °C (-4 °F to 662 °F) in two ranges **Range one =** -20 °C to 100 °C (-4 °F to 212 °F) **Range two =** -20 °C to 350 °C (32 °F to 662 °F)
Optional—high temperature			Up to 1200 °C (2192 °F)	-
			Range 4 = 500 °C to 1200 °C (932 °F to 2192 °F)	-
Accuracy	± 2 °C or 2 % (whichever is greater)			
Measurement modes	Centerpoint, center box (area min/max, average), moveable spots/boxes, user defined field/text annotations, automatic hot and cold point detection, visible color alarm above and below	Centerpoint, center box (area min/max, average)	Centerpoint, center box (area min/max, average), moveable spots/boxes, user defined field/text annotations, automatic hot and cold point detection, visible color alarm above and below	Centerpoint, center box (area min/max, average)
Emissivity correction	0.1 to 1.0 (0.01 increments)			
Image presentation				
Digital display	.13 m (5 in) large high-resolution digital display			
LCD backlight	Sunlight readable color LCD			
Video output	RS170 EIA/NTSC or CCIR/PAL composite video			
Palettes	Grayscale, grayscale inverted, blue red, high contrast, hot metal, ironbow, amber, amber inverted			
Optical Lens				
54 mm telephoto lens	High precision Germanium lens Field of view (FOV): 9° horizontal x 6° vertical			
	Spatial resolution (IFOV): 0.47 mrad		Spatial resolution (IFOV): 0.94 mrad	
	Min focus distance: 0.6 m (1.97 ft)			
Other				
Operating temperature	-10 °C to +50 °C (14 °F to 122 °F)			
Weight (including batteries)	1.95 kg (4.3 lb)			
Camera size (H x W x D)	162 mm x 262 mm x 101 mm (6.5 in x 10.5 in x 4.0 in)			
Warranty	Two-years			

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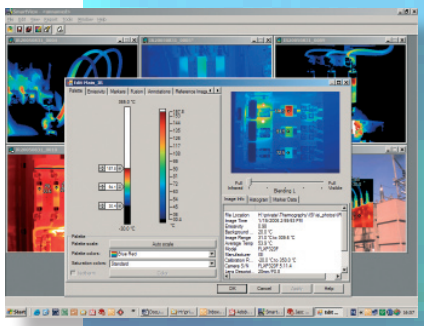
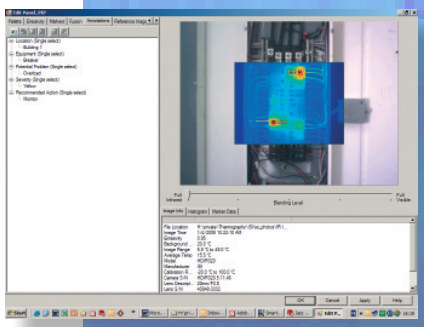
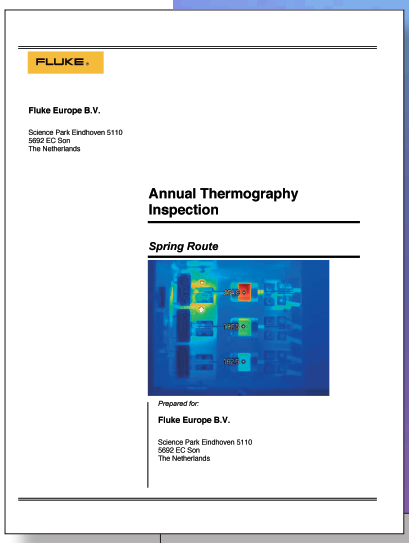
Fluke SmartView™ Software



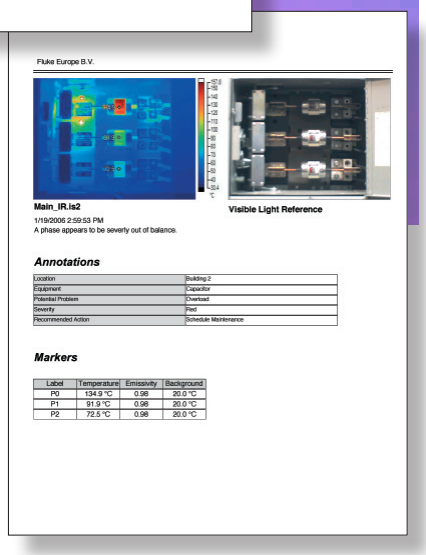
Navigate, analyze and enhance IR images



Organize data with extensive annotations



Simplified report generation



Easy to use IR analysis and reporting for Fluke thermal imagers.

Fluke SmartView™ software is included with each Fluke thermal imager.

- Powerful, modular suite of software tools for viewing, annotating, editing and analyzing infrared images.
- Generate fully customizable and professional-looking reports in a few easy steps.
- Full support of IR-Fusion® Technology lets you edit images in five viewing modes.
- Easy to use, yet delivers high-end analysis performance

Image viewing and editing

- Display an array of open images for convenient selection and analysis
- Scroll across the image to display the temperature at any given point
- Edit color palettes, reference images, markers, emissivity, and more

Extensive annotation possibilities

- Add annotations (text comments) to images and reports
- Input information such as locations, category and other notes
- Reference images can be linked for good/bad and before/after analysis

Detailed analysis and total image control

- Alter the level, span and palette selection to enhance contrast or display detail more effectively
- Unlimited standard and user-defined analysis markers
- Five viewing modes allows you to choose the best image presentation for your application needs

Simplified report generation

- Generate professional customized reports fast
- One-click standardized report generation for a quick results
- Choice of features including: Before/after, IR plus visible light, annotations, supporting data, graphics and charts
- Report wizard guides the user through report generation

SmartView software system requirements

- Windows® /2000 SP4 with update roll up 1/XP SP2/Vista
- A web browser for product registration. Internet
- Explorer 5.0 or newer or Netscape® 5.0 or newer
- 500 MB available disk space, not counting space requirements for web browser
- 16-bit color, 800 x 600 resolution video or better
- Color printer for printing the images
- CD-ROM drive (for installing SmartView software)

Keeping your world up and running

Fluke 435 Three-Phase Power Quality Analyzer

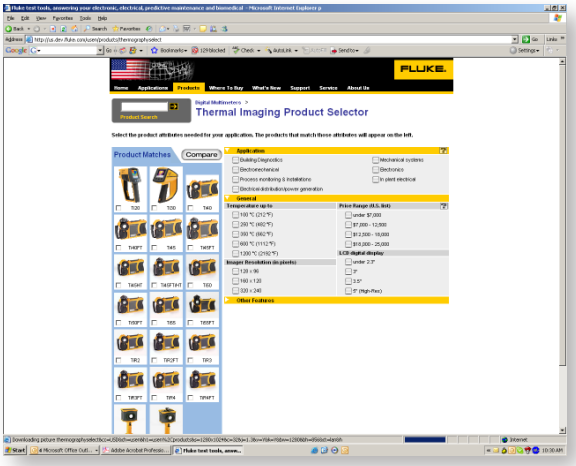
Fluke offers a wide range of electronic, electrical and power quality troubleshooting tools for the industry. With our long experience in delivering top quality, easy-to-use and safe tools, we understand your job and the challenges you face day in-day out. Fluke tools are designed to improve your ability to do a better job by offering rugged, reliable and innovative instruments.

Fluke 289 True-rms Industrial Logging Multimeter with TrendCapture

Fluke 1587 Insulation Multimeter

Fluke 337 True-rms Clamp Meter

Fluke 771 Milliamp Process Clamp Meter



Check out the interactive Thermal Imager Selection Tool
Enter your application requirements and the selection tool will match the best imagers to your application. Go to **www.fluke.com/select**

To find out more about Fluke thermal imagers go to **www.fluke.com/thermal_imaging** or in the United States call 1-800-760-4523.

Ordering Information

FLK-Ti40FT-20
IR FlexCam Thermal Imager with IR-Fusion

FLK-Ti45FT-20
IR FlexCam Thermal Imager with IR-Fusion

FLK-Ti45FT/HT-20
IR FlexCam Thermal Imager with IR-Fusion/High Temp

FLK-Ti50FT-20
IR FlexCam Thermal Imager with IR-Fusion

FLK-Ti55FT-20
IR FlexCam Thermal Imager with IR-Fusion

Fluke. *Keeping your world up and running.*®

Fluke Corporation
PO Box 9090, Everett, WA 98206 U.S.A.

Fluke Europe B.V.
PO Box 1186, 5602 BD
Eindhoven, The Netherlands

For more information call:
In the U.S.A. (800) 443-5853 or
Fax (425) 446-5116
In Europe/M-East/Africa +31 (0) 40 2675 200 or
Fax +31 (0) 40 2675 222
In Canada (800)-36-FLUKE or
Fax (905) 890-6866
From other countries +1 (425) 446-5500 or
Fax +1 (425) 446-5116
Web access: http://www.fluke.com

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